



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,934	11/24/2003	Reza M. Golzarian	ITL.1055US (P17792)	5240
21906	7590	06/14/2005	EXAMINER	
TROP PRUNER & HU, PC 8554 KATY FREEWAY SUITE 100 HOUSTON, TX 77024			BREWSTER, WILLIAM M	
			ART UNIT	PAPER NUMBER
			2823	

DATE MAILED: 06/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

<b>Office Action Summary</b>	<b>Application No.</b> 10/720,934	<b>Applicant(s)</b> GOLZARIAN, REZA M.	
	<b>Examiner</b> William M. Brewster	<b>Art Unit</b> 2823	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 April 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 2,3,8,12,13,15,19 and 20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4-7,9-11,14,16-18 and 21-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

Claims 2, 3, 8, 12, 13, 15, 19, 20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 25 April 2005.

Applicant's election without traverse of claims 1, 4-7, 9-11, 14, 16-18, 21-25 in the reply filed on 25 April 2005 is acknowledged.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4-7, 9-11, 14, 16-18, 21-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamamoto et al., Japan Publication No. 06-077155, 18 March 1994.

Yamamoto anticipates a method comprising: in fig. 1B, exposing an implanted 19 wafer to acoustic energy, by a laser, to activate the implanted species,

CONSTITUTION;

limitations from claim 11, a method comprising: implanting a semiconductor wafer; and

Art Unit: 2823

activating the implanted species by mechanically perturbing said wafer, through the laser treatment, CONSTITUTION forming kinetic and infrared energy to mechanically perturb the implanted species;

limitations from claim 21, in fig. 1B, a method comprising: exposing an implanted 19 semiconductor wafer 11 to a first laser, XeCl laser, at a first energy,  $700 \text{ mJ/cm}^2$ ; and exposing said implanted semiconductor wafer to a second laser, ruby laser, at a second energy  $600 \text{ mJ/cm}^2$  lower than said first energy;

limitations from claim 4, the method of claim 1 including generating acoustic energy using a laser beam, p. 2, ¶ 13;

limitations from claim 5, the method of claim 1 including exposing the implanted wafer to acoustic energy while heating the wafer: generated by the laser treatments, p. 3, ¶ 13-14;

limitations from claims 6, 16, the method of claims 5, 14 wherein heating the wafer includes exposing the wafer to a laser beam, pp. 1-2, ¶ 5;

limitations from claims 7, 17, the method of claims 6, 16 wherein exposing the wafer to a laser beam includes exposing the wafer to an infrared laser beam:

wherein the laser treatment may be selected from multiple lasers, p. 3, ¶ 13-14,

and in fig. 2, the graph displays the wavelength of the lasers, some of which are greater than 700 nm, or  $0.7 \mu\text{m}$ . The laser wavelengths greater than 700 nm may be considered to be infrared. Proffered as evidence is the *Wikipedia Infrared* definition, which categorizes  $0.7 \mu\text{m}$  as infrared.

Limitations from claim 9, the method of claim 1 including exposing the wafer to two laser beams, said laser beams having different energy, one of said laser beams to heat said wafer, pp. 1-2, ¶ 5, and the other of said laser beams to generate phonons, shorter wavelengths, p. 2, ¶ 13-14;

limitations from claim 10, the method of claim 1 including annealing the wafer after ion implantation and subsequently using acoustic energy to activate the implanted species by the generation of phonons, p. 2, ¶ 20;

limitations from claims 14, 25, the method of claims 11, 21 including applying heat to said wafer, p. 3, ¶ 20;

limitations from claim 18, the method of claim 16 including mechanically perturbing said wafer at the same time said wafer is being heated, through the laser treatment, CONSTITUTION forming kinetic and infrared energy to mechanically perturb the implanted species;

limitations from claim 22, the method of claim 21 including exposing said semiconductor wafer to said second laser to generate acoustical energy, energy conversion upon striking the wafer;

limitations from claim 23, the method of claim 22 including generating acoustical energy to activate implanted species, CONSTITUTION;

limitations from claim 24, the method of claim 21 including exposing said semiconductor wafer to said first laser that is a infrared laser, see claim 7.

Art Unit: 2823

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William M. Brewster whose telephone number is 571-272-1854. The examiner can normally be reached on Full Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on 571-272-1855. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*William M. Brewster*

9 June 2005

WB